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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,004	08/24/2001	Joseph M. Fukumoto	PD-01W007	3410

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PATENT DOCKET ADMINISTRATION
RAYTHEON SYSTEMS COMPANY
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[REDACTED] EXAMINER

NGUYEN, TUAN M

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

2828

DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicant No.	Applicant(s)
	09/939,004	FUKUMOTO, JOSEPH M.
	Examiner	Art Unit
	Tuan M Nguyen	2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-18 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers



PAUL J.

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding to claims 1-18 are narrative confusing, vague and indefinite.

For example, claim 1 recites an arrangement comprising first means, second means. It is not clear what “an arrangement” is meant in the claim. It fails to limit the application of invention. The claim recites “first means ” and “second means” without the recitation. The claim also recites the “functional alignment”. It is not clear what “functional alignment” is meant in the claim which renders the claim confusing, vague and indefinite.

For example, claims 16 –17 recite a crystal “adapted” to shift energy received at a first wavelength and output said shifted energy at second wavelength. It is not clear what “adapted” is meant in the claims. The claims also recite “a mechanism”. It is not clear what “a mechanism” is meant in the claims which render the claims confusing, vague and indefinite.

Claim Rejections - 35 USC § 102

Art Unit: 2828

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Komine ('173).

With respect to claims 1-7, Komine shows in figures 1 and 3, first /second means, the first / second wavelength, the first/second reflective means are first/second mirrors, note col. 3 line 51 to col. 6 line 65.

With respect to claim 7, as claim is understood, Komine discloses a Nd:YAG laser (11) operating at a first wavelength of 1.06 microns and the second wavelength approximately 2.59 microns, the OPO is a KTA crystal and the first and second mirrors (14, 16), note cols 5-6, see fig. 3. Since Komine discloses all elements and operating wavelength within the claim , it is inherent to have the first and second mirrors are fabricated from CaF₂ substrate.

With respect to claims 9 to 15, Komine discloses the first means is a crystal (15) and crystal is PTA, crystal is X/Y cut and the first wavelength is approximately 1.06 microns and second wavelength is approximately 2.59 microns and 3.76 microns an primary emission includes energy at 1.53 microns, note col. 1 line 51 to col.10 line 46, see figs. 1-11.

With respect to claims 16-18, Komine discloses a laser (11) for generating energy at a first wavelength, an optical parametric oscillators (12, 13) includes a crystal (15), the reflectors (14, 16), note col. 1 line 51 to col.10 line 46, see figs. 1-11.

Citation Of The Pertinent References

4. The prior art made of record and not relied upon us considered pertinent to applicant's disclose.

The patent to Jin et al (US patent 5,854,802) disclose single longitudinal mode frequency converted laser.

The patent to Fulbert et al (US patent 5,754,333) disclose microlaser pumped monolithic optical parametric oscillator.

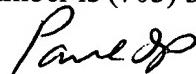
The patent to Powers et al (US patent 5,371,752) disclose optical parametric oscillation using KTA nonlinear crystal.

Communication Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247. The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.



Paul Ip
SPE
Art unit 2828

TMN
April 3, 2003